REMARKS

In response to an Office Action mailed December 4, 1998, Applicant filed a Notice of Appeal on May 4, 1999. Applicant now cancels claims 46-105 without prejudice to pursuing further prosecution of these claims in a related application. Claims 106-114 have been added. Claims 106-112 correspond exactly to claims 1-5, 7, and 8 of U.S. Patent 5,762,458 (the '458 patent), which issued to Wang et al. on June 9, 1998. Claim 113 substantially corresponds to claim 1 of the '458 patent. Claim 114 depends from claim 113.

Applicant respectfully requests that an interference be declared under 37 C.F.R. §1.607 between the present application and the '458 patent.

The present application, U.S. patent application serial No. 08/709,930, filed on September 9, 1996, is a continuation of U.S. patent application Serial No. 07/823,932, filed on January 21, 1992. The '458 patent issued from Application No. 603,543, which was filed on February 20, 1996, and does not claim priority from any prior application. Therefore, applicant believes that applicant would be senior party in any interference proceedings.

Under M.P.E.P. §2307 and 37 C.F.R. §1.607, applicant requests this interference be declared between the present application and the unexpired '458 patent, and has satisfied each requirement of 37 C.F.R. §1.607 as follows:

(1) The unexpired patent is U.S. patent No. 5,762,458, which issued to Wang et al. on June 9, 1998.

(2) The Proposed Count is as follows:

Count 1

(i) A medical robotic system that can be inserted through a first incision of a patient and controlled by a surgeon comprising:

a first articulate arm which has a passive joint that is coupled to a first end effector inserted into the incision, wherein the incision defines a first pivot point for said first end effector;

a first input device that creates a first input command in response to an instruction from the surgeon; and,

a controller that is coupled to said first input device and said first articulate arm, said controller receives said first input command from said first input device and provides a first output command to said first articulate arm to move said first end effector relative to the first pivot point;

OR

(ii) A medical robotic system that can be inserted through a first incision of a patient and controlled by a surgeon comprising:

a first articulate arm with a first end effector;

a first input device that creates a first input command per the surgeon; and,

a computer that is coupled to said first input device and said first articulate arm, said computer receives said first input command from said first input device and provides a first output command to said first articulate arm to move said first end effector.

Proposed Count 1 is a phantom count and has for its first part (i) claim 1 (the broadest claim) of the '458 patent; and for its second part (ii) claim 113 of the present application, a claim substantially corresponding to claim 1 of the '458 patent.

(3) It is respectfully submitted that all claims (1-25) of the '458 patent correspond to the Proposed Count. Claim 1 of the '458 patent corresponds exactly to the Proposed Count. Claims 2-25 of the '458 patent correspond substantially to the Proposed Count, since each would have been obvious in view of the Proposed Count. As is required under 37 C.F.R. §1.606, the Proposed Count is not narrower in scope than any patent claim designated to correspond to the count.

(4) It is respectfully submitted that claims 106-114 of the present application correspond to the Proposed Count. Per 37 C.F.R. §1.606, the Proposed Count is not narrower in scope than any application claim designated to correspond to the count.

(5) Examples of support for claims 106-114 are found throughout the specification as originally filed in parent application 07/823,932. Once again, the present application (08/709,930, filed on September 9, 1996) is a continuation of the parent application, which was filed on January 21, 1992. Specifically, support in the parent application is found as tabulated below.

Claim 106 (Claim 1 of the '458 Patent)	Support in Parent Application 07/823,932
A medical robotic system that can be inserted through a first incision of a patient and controlled by a surgeon comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 11, lines 1-25 explain that Figs. 7 through 9 illustrate embodiments adapted for minimally invasive surgery, and that manipulators 100 are inserted through abdominal wall 106 of a patient at an incision.

a first articulate arm which has a passive joint that is coupled to a first end effector inserted into the incision, wherein the incision defines a first pivot point for said first end effector;	Page 17, line 15-page 18, line 8 state that manipulator 142 is coupled to end effector 170 by a variety of joints, and that the end effector is inserted through the incision so that the incision defines pivot point 176. Page 16, lines 17-35 explain that manipulators 34, 100, 142, and 268 are articulate arms having a variety of different degrees of freedom (as seen in Figs. 1, 3, 7, 9, 11, and 14), and that known arms having different degrees of freedom may be used.
a first input device that creates a first input command in response to an instruction from the surgeon; and,	As illustrated in Fig. 1 and described, for example, on page 9, lines 20-28, controllers 72 are moved by operator 18 to input commands to computer 42.
a controller that is coupled to said first input device and said first articulate arm, said controller receives said first input command from said first input device and provides a first output command to said first articulate arm to move said first end effector relative to the first pivot point.	Fig. 1 illustrates a servomechanism system including computer 42 coupled to controllers 72 and to manipulators 34, as described on page 9, lines 20-25. Page 18, lines 6-32 state that in the minimally invasive surgical system, commands input using controllers 140 effect movement of manipulator 142 so that end effector 170 pivots about pivot point 176.

Claim 107 (Claim 2 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 106, further comprising a second articulate arm which has a second end effector, and a second input device which creates a second input command in response to an instruction from the surgeon, said controller receives said second input command from said second input device and provides a second output command to said second articulate arm to move said second end effector about a second pivot point located at a second incision of the patient.	Page 18, lines 27-32 states that the servomechanism system includes left and right controllers 140 and left and right manipulators 142 for inputting commands with the left and right hands of the surgeon. As illustrated in Fig. 9, the left and right manipulators pivot through first and second incisions to move the left and right end effectors within the patient.

Claim 108 (Claim 3 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 107, further comprising a third articulate arm that holds an endoscope, and a third input device which receives an instruction from the surgeon and which generates a third input command in response to the instruction, said controller receives said third input command and provides a third output command to said third articulate arm to move the endoscope about a third pivot point located at a third incision of the patient.	Page 14, lines 27-33 describe a laparoscope 108 including an articulate structure in the form of outer operating section 108A, which moves an insertion section 108B through a dedicated incision through the abdominal wall, as illustrated in Fig. 9. As stated on page 21, lines 8-14, other endoscopes may also be used.

Claim 109 (Claim 4 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 108, wherein said first input device is a master handle that is moved by the surgeon.	Fig. 9 illustrates a hand of a surgeon moving a handle of manipulator 102, as described on page 13, lines 1-20.

Claim 110 (Claim 5 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 109, wherein said first end effector moves a scaled increment of a movement of said master handle.	Page 11, lines 6-26 describe scaling movements of hand control means 76 to effect movements of end effectors 40 so that the operator appears to directly manipulate the end effectors.

Claim 111 (Claim 7 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 106, wherein said first end effector has a force sensor and said first input device has an actuator that is coupled to said force sensor to apply a force to the surgeon that corresponds to a force sensed by said force sensor.	Page 21, line 21-page 22, line 14 describe force feedback systems including sensors on the end effectors and actuators coupled to the sensor to apply forces to the operator corresponding to forces sensed by the force sensor.

Claim 112 (Claim 8 of the '458 Patent)	Support in Parent Application 07/823,932
The system as recited in claim 111, wherein the force applied to the surgeon is a scaled increment of the force sensed by said force sensor.	Page 11, lines 21-26 state that appropriate scaling and magnification and force and torque feedback can provide the operator with the desired control over the end effector.

Claim 113	Support in Parent Application 07/823,932
A medical robotic system that can be controlled by a surgeon for use with a patient comprising:	As stated on page 1, lines 2-6, the invention relates generally to teleoperator robotic systems. Page 11, lines 1-25 explain that Figs. 7 through 9 illustrate embodiments adapted for minimally invasive surgery.
a first articulate arm with a first end effector;	Page 16, lines 17-35 explain that manipulators 34, 100, 142, and 268 are articulate arms having a variety of different degrees of freedom (as seen in Figs. 1, 3, 7, 9, 11, and 14). Page 17, line 15-page 18, line 8 state that manipulator 142 is coupled to end effector 170.
a first input device that creates a first input command in response to an instruction from the surgeon; and,	As illustrated in Fig. 1 and described, for example, on page 9, lines 20-28, controllers 72 are moved by operator 18 to input commands to computer 42.

a computer that is coupled to said first input device and said first articulate arm, said computer receives said first input command from said first input device and provides a first output command to said first articulate arm to move said first end effector.	Fig. 1 illustrates a servomechanism system including computer 42 coupled to controllers 72 and to manipulators 34, as described on page 9, lines 20-25. Page 18, lines 6-32 state that in the minimally invasive surgical system, commands input using controllers 140 effect movement of manipulator 142.

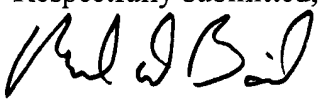
Claim 114	Support in Parent Application 07/823,932
The system as recited in claim 113, wherein the instruction from the surgeon comprises a movement in a desired direction relative to an object displayed to the surgeon on a display device, and wherein the first output command moves the end effector in the desired direction relative to the object by pivoting a shaft coupling the end effector to the arm about an incision.	As illustrated in Fig. 1-3 and described, for example, on page 5, lines 25-33; on page 8, lines 14-25; and on page 11, lines 21-28, commands are input by an operator to move end effectors 40 relative to an object 26 shown in display 54 by moving controllers 70. Page 20, lines 35-page 21, line 5 explain how computer 42 generates output commands so that the end effector moves in the desired direction, while pivoting of the shaft about an incision is described on page 18, lines 3-8.

(6) The requirements of 35 U.S.C. §135(b) are met because the '458 patent was issued on June 9, 1998, which is less than one year from the filing date of this preliminary amendment (May 28, 1999) which adds claims 106-114 to the above-referenced application.

CONCLUSION

In view of the above, Applicant believes that no new matter has been introduced. Applicant respectfully requests that the Examiner declare an interference with the '458 patent, and furthermore, request that the examination of the present application be conducted with special dispatch per 37 C.F.R. §1.607(b).

Respectfully submitted,



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